

# WATER QUALITY M E M O R A N D U M

## Utah Coal Regulatory Program

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December 7, 2010

TO: Internal File

THRU: James D. Smith, Permit Supervisor *DS 7 Dec 2010*

FROM: April A. Abate, Environmental Scientist II *AAA 12-7-2010*

RE: 2010 Second Quarter Water Monitoring, Plateau Mining Corporation (PMC), Willow Creek Mine, C/007/0038-WQ10-02 Task ID #3578

The Willow Creek Mine is in reclamation. The mines have been closed and sealed. The disturbed areas around the portals have been regraded and seeded. The most recent surface operations took place in Willow Creek Canyon, about a mile from the junction between U.S. Highway 6 and State Highway 191. The reclaimed area in Crandall Canyon is also part of the Willow Creek permit area. Crandall Canyon has recently received Phase I Bond Release approval from the Division.

There are no ground water sites monitored during the reclamation phase.

1. Were data submitted for all of the MRP required sites? YES ☒ NO ☐

Under the reclamation plan, surface water monitoring is required for sites listed on Table 4.7-2 and shown on Map 15.

**Springs-** There are no springs monitored during the reclamation phase.

**Streams-** There are six surface water-monitoring sites:  
B3N (Willow Creek above power plant),  
B-5 (Price River below processing plant above Willow Creek),  
B-6 (Price River above coal processing plant),  
B25 (Crandall Canyon Creek),  
B26 (lower reach of Crandall Canyon)  
B151 (Willow Creek – 3 miles above Willow Creek Mine)

The reclamation sampling water quality list is presented in Section 13, p. 28. Sampling is conducted quarterly. PMC tries to monitor the sites within a two week period from March 15<sup>th</sup>, June 10<sup>th</sup>, September 5<sup>th</sup> and November 30<sup>th</sup> to attempt to collect data that

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coincides with first thaw, spring high flow, end of summer low-flow and last sample before freeze-up.

All required stream sampling locations were monitored for the quarter on June 29, 2010. As is typical, Crandall Canyon Creek samples B25 and B-26 did not report any flow data.

**Wells-** There are no operational monitoring wells.

**UPDES-** The mine has been reclaimed and as a result, there are no currently active Utah Pollutant Discharge Elimination System (UPDES) monitoring locations at the site.

2. **Were all required parameters reported for each site?** YES ☒ NO ☐

3. **Were any irregularities found in the data?** YES ☐ NO ☒

None of the parameters sampled this quarter were outside of two standard deviations. The reliability checks performed on the data with respect to the conductivity measurements were within acceptable ranges. In general, reliability checks for total dissolved solids (TDS) relative to measured conductivity show a TDS result that is between 55 – 75% of the conductivity value. All four of the samples collected this quarter were within acceptable ranges for TDS/Conductivity ratios. All of the TDS results for the stream samples this quarter measured between 245 mg/L and 558 mg/L range, indicative that water quality is healthy and acceptable for stream water. TDS standards for this section of the Price River Watershed are set at 1,700 mg/L based on the Utah Administrative Code Rule R317-2. Stream samples collected continue to remain well below this standard.

The values of conductivity divided by total cations (meq) should equal a value in the acceptable range between 90-110. All surface water samples analyzed this quarter indicated results were within acceptable ranges.

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Date	ID#	Sample Location	T-Cats	TDS	Cond(FLD)	TDS/Conductivity	Conductivity/Cations
			meq/l	mg/l	umhos/cm	>0.55 - <0.75	>90 - <110
6/29/2010	B151	WILLOW CK 3 MILES AB WILLOW CK MINE	9.62	547	890	0.61	93
6/29/2010	B3N	WILLOW CK AB POWER PLANT	10	558	917	0.61	92
6/29/2010	B5	PRICE R BL PROCESSING PLANT AB WILLOW CK	4.69	245	457	0.54	97
6/29/2010	B6	PRICE R AB COAL PROCESSING FACILITY	4.69	254	454	0.56	97

Meq= milliequivalent

mg/L=milligrams per liter

FLD = Field

**4. On what date does the MRP require a five-year resampling of baseline water data.**

Baseline data were collected at the beginning of mining operations for a two-year period; however routine 5-year sampling is not specified in MRP. The Division recommends baseline water quality parameter sampling at each five-year renewal period.

**5. Based on your review, what further actions, if any, do you recommend?**

The Permittee is very diligent with timely submittals and quality control checks of data – no further actions are necessary at this time.